CITY OF DETROIT
WATER AND SEWERAGE DEPARTMENT
OFFICE OF THE DIRECTOR

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September 19, 2014

Ms. Laura Verona
Water Resources Division
Michigan Department of Environmental Quality
Southeast Michigan District Headquarters
27700 Donald Court
Warren, Michigan 48902-2793

Dear Ms. Verona:

RE: Revised Interim Staffing Plan for the Detroit Water and Sewerage Department Wastewater Operations Group

In response to the request of MDEQ, a revised interim staffing plan for the Detroit Water and Sewerage Department Wastewater Operations Group is attached.

Please contact Cheryl Porter at (313) 964-9390 or cporter@dwsd.org, with any questions you may have.

Sincerely yours,

Sue F. McCormick
Director

SFM/CP/tna

Attachments

Cc: William Wolfson, DWSD
Cheryl Porter, DWSD
Butler Benton, B2 Advisors LLC
Mark Jacobs, Dykema Gossett
Jodi Peace, MDEQ
Ed Hogan, Wade Trim

Detroit Water and Sewerage Department
Wastewater Operations Group - Interim Staffing Plan
September 19, 2014

1.0 Introduction

DWSD acknowledges that both the Administrative Consent Order (ACO) and the NPDES Permit include provisions requiring the development of a Staffing Plan and the minimum staffing level necessary to properly operate and maintain the Detroit Wastewater Treatment Plant (WWTP) and Combined Sewer Overflow (CSO) facilitates in accordance with the NPDES Permit. The ACO and the NPDES Permit also specifically provide opportunity, by mutual written agreement, to revise the Staffing Plan and the minimum staffing level.

This Interim Staffing Plan, dated September 19, 2014 constitutes a formal request by DWSD to revise the currently approved Staffing Plan methodology in accordance with the ACO and the NPDES Permit. The Interim Staffing Plan has been prepared in recognition of the ongoing Organization Optimization initiative, a five-year comprehensive program designed to ensure long-term regulatory compliance, operational efficiency, affordability and sustainability for the system and its customers. The Interim Staffing Plan reflects progress achieved in the first two years of the five year implementation of the Organization Optimization initiative; however, it is recognized that this is a continuous improvement process and further refinements are fully expected.

We as an organization recognize that the interim staffing level number will require an annual review while we are in the transitional phase. DWSD is fully committed to completing the Organization Optimization Project, a five year process. This methodology requires a continuous adjustment in the staffing level number. During this transitional phase, we will continue to have contractual support, employee development, and the resources necessary to ensure long-term compliance.

The Michigan Department of Environmental Quality (MDEQ) has recognized that the optimization program will extend well past the September 30, 2014 annual reporting period established in the ACO. Consequently, in the document dated August 1, 2014 "Framework for Addressing Staffing Levels at the Detroit WWTP" (Framework), MDEQ defined the criteria they would employ for review of the Interim Staffing Plan and for evaluating compliance with the ACO and the NPDES Permit as of October 1, 2014 (reference Attachment 1).

2.0 MDEQ Evaluation Criteria

The Framework identifies five requirements that DWSD must address to satisfactorily demonstrate compliance with the ACO and the NPDES Permit. Each of those requirements is addressed in the following sections.

2.1 Four Guiding Principles

The first requirement addresses four guiding principles identified by MDEQ to ensure adequate staffing levels during 2014, concurrent with the on-going optimization process.

- Comply with all effluent limits, and permit conditions,
- Operate the treatment facilities with an adequate margin of safety below permit limits,
- Reduce raw sewage discharges from remaining CSOs, considering actual precipitation,
- Maintain the treatment facilities adequately (including implementation of asset management, in accordance with the approved plan)

1. Since January 2014, DWSD has maintained continuous compliance with the NPDES Permit effluent quality limits at the WWTP with one minor exception in the month of May (monthly total suspended solids percent removal for monitoring point 049B was 84.4% as opposed to the minimum requirement of 85%). The monthly transmittal letters identifying no violations are provided in Attachment 2. On occasion during 2014, permit conditions addressing solids inventory have been challenging to maintain. However, despite these internal operational issues, the WWTP has continued to maintain compliance with its effluent limits.

2. With regard to effluent quality, the WWTP operates with a considerable margin of safety below the NPDES Permit limits. Effluent data from the monthly Discharge Monitoring Reports (DMR) during 2014 demonstrate that the WWTP operations consistently perform well below the applicable limits. For example, the current NPDES Permit limitation for Phosphorus is 1.0 mg/l. For the period beginning January 2014 through August 2014, the monthly average discharge concentration for Phosphorus ranged from 0.19 mg/l to 0.45 mg/l. Significantly, the Phosphorus discharge concentrations for the last three months were 0.19 mg/l, 0.24 mg/l and 0.19mg/l; well under the current limitation, and even well below the future limitations of 0.7 mg/l and 0.6mg/l.

   Similarly for Total Suspended Solids (TSS) and Carbonaceous Biochemical Oxygen Demand (CBOD5), the effluent data from the WWTP operations consistently demonstrate operational performance well below the applicable limits. The current NPDES Permit limitations for TSS and CBOD5 are 30mg/l and 25 mg/l as a monthly average, respectively. For the period beginning January 2014 through August 2014, the monthly average discharge concentration for TSS ranged from 5 mg/l to 20 mg/l, while the monthly average for CBOD5 ranged from 3 mg/l to 10 mg/l; again, well under current limitations.

WWTP Effluent Discharge Quality and Margin of Safety

Calendar 2014 to-date	Total Suspended Solids (TSS)	Carbonaceous Biochemical oxygen Demand (CBOD5)	Phosphorus
	NPDES Permit limit 30 mg/l	NPDES Permit limit 25 mg/l	NPDES Permit limit 1.0 mg/l
January	10	6	0.30
February	11	7	0.36
March	14	10	0.39
April	13	9	0.45
May	20	9	0.40
June	7	3	0.19
July	7	4	0.24
August	5	6	0.19

This considerable margin of safety with respect to the applicable NPDES Permit limit exists for virtually all the effluent quality parameters (reference Attachment 3 for monthly treatment performance data extracted from the previously submitted DMRs).

DWSD also recognizes that solids management at the WWTP continues to present a formidable challenge, as exemplified by the high inventories experienced during 2014. While the high solids inventories have not adversely affected compliance with the NPDES Permit effluent limits, we fully understand the potential for impact resulting from solids accumulation and recycle. We are also aggressively pursuing near and long-term solids management programs; the details of which are delineated in a separate communication specific to the issue of solids inventory reduction and management.

The actions being taken by DWSD to: issue contracts specifically for maintenance of the centrifuges, incinerators and conveyor systems; bring back the rental centrifuges; and to search out additional sludge hauling and landfill contracts; are all focused at reducing the current inventories and maintaining compliance with the NPDES Permit. The construction of the Biosolids Dryer Facility, the Complex I and II Belt Filter Press installations, and the Complex II Air Quality Improvements are focused to provide for adequate margin of safety in solids management for the long term.

The following is a list of Board-approved items in process since February 2014 to support the above efforts:

- RFB No. 46280 "Replacement of DS-706 Centrifuges Back Drive 100 HP Motors, VFDs and Control Panels and Installation of Motor Protection Modules for Main Drive 300 HP Motors for Four (4) Sharples Centrifuges at Dewatering Complex II at the WWTP" with Detroit Contracting, Inc. and PES Group, PC for a duration of 300 calendar days
- RFQ No. 47234 "Furnish: Overhaul and Repair Service to Include Parts for Complex II Centrifuges – Four (4) Sharples Model 706S and Eight (8) Westfalia Model CS-755 at the WWTP" with Alfa Laval for a period of two (2) years, with two (2) – one (1) year renewal options
- PC-774 "Complex I and II Incinerator Improvements"
- Emergency Contract Purchase Order (CPO) to "Furnish: Rental Dewatering Centrifuge Units, including Installation and Operation per DWSD Specifications, at the Wastewater Treatment Plant", with Pace Dewatering Systems Ltd. for a period of six (6) months
- RFQ No. 47825 "Loading, Hauling & Disposal of Biosolids to Various Landfills for the Wastewater Treatment Plant" with Trinity Environmental Solutions for a period of two (2) years, with two (2) – one (1) year renewal options
- RFQ No. 47825 "Loading, Hauling & Disposal of Biosolids to Various Landfills for the Wastewater Treatment Plant" Stansley Industries, Inc. for a period of two (2) years, with two (2) – one (1) year renewal options
- RFQ No. 48788 "Supplemental landfilling of lime-stabilized Biosolids to various landfills for the Wastewater Treatment Plant" with Stansley Industries, Inc. for a period of for a period of two (2) years, with two (2) – one (1) year renewal options

3. DWSD continues to look for opportunities to further reduce untreated discharges from the combined sewer system during wet weather events. The annual summary of CSO discharge data

for the past three fiscal years, provided as part of the Consolidated Annual Report submitted every October 1st, is provided as Attachment 4. The following table summarizes the data contained in the last three annual reports.

Annual Summary of CSO Treatment and Discharge Data

	Fiscal Year 2011- 2012	Fiscal Year 2012- 2013	Fiscal Year 2013- 2014*
WWTP Primary Effluent - DRO	7,911	4,665	3,980
WWTP Primary Effluent - RRO	10,962	8,253	4,752
Combined RTBs & SDF	5,122	7,164	12,665
Total Treated	23,995	20,082	21,397
Total Untreated CSO	3,260	499	533
Total Volume	27,235	20,581	21,930
Percent Untreated	11.97%	2.42%	2.43%
Percent Treated	**88.03%**	**97.58%**	**97.57%**

* The CSO Treatment and Discharge Data for Fiscal Year 2013-2014 is considered preliminary as of this report, but will be finalized as part of the 2014 Consolidated Annual Report due October 1, 2014.

Significant progress in the capture, treatment and overall management of wet weather flow and the resulting combined sewerage has been made since the program implementation in the mid-1990s. Of particular note, over the course of the past few fiscal years, DWSD has taken the capture and treatment of wet weather flows to another level; pushing the envelope to 97.5% for the two most recent years. Clearly, the characteristics of weather events play a role in CSO management. One of the wettest years on record occurred in 2011. While August 2014 brought one of the worst storms in local recorded history.

4. Equipment maintenance has been a consistent theme throughout the history of recurring noncompliance associated with the WWTP. The team approach and the flexible workforce model being implemented as part of the Organization Optimization initiative are intended to directly address the impediments to timely and functional equipment maintenance. The now piloted new classifications require and support the development of employees who possess greater knowledge, skill, and abilities than in the currently held titles. While DWSD implements this plan continued contractual support will be utilized to assure operations and maintenance at appropriate levels. Some areas of contractual support may not have a long-term future, such as the following contracts that will be used to assess and repair equipment, establish appropriate inspection schedules and train employees to support those activities at the completion of the contract:
    - RFQ No. 48504 "Vactor Equipment and Operator Crew" with United Resource, LLC, and Lakeshore Global Corporation for a period of two (2) years, with two (2) – one (1) year renewal options
    - RFQ No. 47248 "Inspections and Repair Service for Rotork Actuator" with Rotork Controls, Inc. for a period of three (3) years, with one (1) – one (1) year renewal option
    - Pilot Contract from McNaughton-McKay, Inc. for Electrical Supplies and Materials for one (1) year

- Contract form Grainger, Inc. for MRO (Materials, Repair, Operation) Products inclusive of Vending Agreement for two (2) years, with two (2) – one (1) year renewal options
- Amendment of Praxair Service Rider, SD DRMS Project No. 004462 "Provide mechanical, electrical, control and instrumentation, and DTE natural gas line to the backup oxygen vaporization at the Wastewater Treatment Plant" with Praxair, Inc. for a duration of 270 calendar days

As the optimization program has evolved, the Maintenance Planner function has been integrated into each Area Team. We fully understand and appreciate the significance of completing required preventive maintenance work as planned, and performing corrective maintenance work as required to provide for the availability of critical equipment. An area of priority is establishing the right preventive maintenance (PM) and frequency to first be effective than efficient. The flexible workforce on the pilot teams is focused on increasing the percentage of PMs completed as planned, as well as completing the corrective maintenance (CM) as scheduled. Since the optimization program is continuing to evolve, a support team remains available to draw upon for personnel for completing PMs and CMs, as required.

2.2 Documentation of Support Team Time and Services

Operations & Maintenance (O&M) is responsible for day-to-day plant operations. O&M is comprised of four process area teams, which are responsible for all operations and maintenance activities within a prescribed area of wastewater operations. The teams and their current staffing levels are as follows:

Primary Treatment	32
Secondary Treatment	29
Dewatering	55
Residuals	66

In addition to the process area teams that are responsible for handling routine operations and maintenance within their assigned work areas, we also have support crews. The support crews are additional employees that are being used to support the pilot teams as they work to reach the levels of productivity inherent in the job design. The support crews are also being used to assist in eliminating the backlog of maintenance and housekeeping assignments. As we begin to mature into a fully optimized organization, we envision the elimination of the support crews. These crews will be reduced in one of two ways:

- It is determined that the optimized process area teams need to be supplemented with additional staff, which will result in a positive adjustment to the staff level for that process area.
- It is determined that the process area teams are fully optimized and the backlog of assignments has been reduced to the level where they can be handled by the process area teams.

We have devised a procedure to track the use of support crew personnel that will assist the process area teams. The procedure will be tested over the next week, and we plan to go live starting September 29, 2014. Through tracking support team usage, we will determine if the process area teams need to be supplemented on a short-term or long-term basis. Whether short or long-term contractual support is and will continue to be a resource to support O&M. Contracts such as the following:

- RFQ No. 48988 "Purchase One (1) 2015 Elgin Pelican Street Sweeper" from Bell Equipment Company

- RFB No. 48581 "Preventative Maintenance, Service and Repair for All DWSD Elevators" with ThyssenKrupp Elevator for a period of two (2) years, with one (1) – one (1) year renewal option
- RFQ No. 47931 "Crane Service, Inspections and Preventative Maintenance" for all DWSD crane sites with Royal Arc Welding Co. for a period of three (3) years, with three (3) – one (1) year renewal options
- Skilled Trades contract PC-790
- Personal Service contracts (needs will vary over time)

Optimization of staffing is a process, and until the initial process is completed we will maintain support crews so that sufficient staffing is available to address peak workload challenges. We will retain the flexibility to adjust the staffing levels as needed. Under our most realistic projections, we will continue to have a need for supplemental staffing for the next three years. We will be working over the next two years to improve productivity and efficiency so that the process area teams can manage their workload effectively.

The Oracle Work and Asset Management (WAM) application has been implemented and the transition of Computerize Maintenance Management System (CMMS) functions and data transferred from EMPAC as of June 1, 2014. DWSD is proceeding with additional enhancements to WAM to further expand the features and functionality of the application to address additional maintenance, stores and asset management capabilities.

As with most new applications of this complexity, there are a number of issues that continue to require attention. For DWSD's WAM implementation, the capture and recording of preventive and corrective maintenance is a work in progress. The PM and CM data reported for June and July of 2014, following the transition to WAM, are not consistent with previously reported data for both work scheduled and work completed as planned. We are continuing to focus on capturing and reporting correct data. As part of the continuing improvement program, we also have the Maintenance Planner function reviewing the PM work orders with respect to assigned trades, duration, and frequency.

The WWTP has prepared a procedure to document the time and services performed (PM, CM, Operations, etc.) in support of each respective Area Pilot Team. The procedure requires data entry by the support team supervisor on a daily basis, and aggregated into a monthly report. Initially the procedure will be implemented using an excel spreadsheet. However, we are intending to automate the process by leveraging the capabilities of the WAM application.

2.3 Preventive Maintenance

All PMs are originated as a work order that is scheduled, assigned and issued utilizing WAM. PM work orders can be performed by Plant Technicians or Maintenance Technicians, depending on the type of work to be performed. The intent of the highly skilled flexible workforce is to improve staff efficiencies, increase the completion rate of PMs completed as planned, and thereby increase the availability of equipment for service.

Here are the major steps that must occur for us to realize our objective of a fully optimized organization:

- We must transition to a highly skilled flexible workforce. This workforce model is key to realizing the productivity gains that are the basis for the to-be staffing levels.

- In addition to having a more highly skilled flexible workforce, we must also have a more committed workforce. The current organizational culture at wastewater is struggling to embrace change, even when that change is for an improved work environment or improved productivity.
    - Promoting and placement of employees into the new classifications – with recently settled contracts in place we can now proceed with filling the new positions. By filling these positions we can positively impact employee moral while at the same time raising expectations of employee performance.
    - Upgrading the performance of our team leaders – we are beginning to fill the team leader positions. In filling these positions, we are considering candidates both inside and outside of DWSD. It is important for us to have leadership for our process areas that are champions for our optimization efforts. Unfortunately, that has been a challenge for some of our supervisors that were trained and mentored in ways that do not favor a continuous improvement model. We are working to help these employees embrace a new way of working. Bringing supervisors with external experience who are not tied to the legacy can be beneficial. We will explore all opportunities and focus on building a first rate leadership team for the plant.
- Training is a key focus area that supports the career progression of employees.
    - Organizational Development is hiring training staff who will be dedicated to helping employees fulfill all required training levels with their respective job description.
    - We are also ready to sign a memorandum of understanding (MOU) with the International Union of Operating Engineers (IUOE) has been developed to provide training opportunities for employees through the Stationary Engineers Training Center. This collaboration supports continued positive and effective labor management relations.
    - We are engaged in communications with the Michigan Water Environment Association (MWEA) to prepare for licensing.
- The Asset Management Work Group is currently preparing standard operating procedures to provide for consistency and uniformity in data entry for the entire work order process, inclusive of work order closeout. Complete and accurate work order data entry into WAM is critical to the assessment of the preventive maintenance program. Further, the existing information associated with PMs (duration, frequency, trades, number of staff required, etc.) needs to be reviewed and updated, as required.

As PM work orders are assigned, specific staff are identified in WAM to complete those work orders. Upon completion of the PM work orders, the time required to complete, parts and materials required, and other pertinent information is entered into WAM. Work orders that are not completed as planned are also recorded. With complete and comprehensive work order data entry, WAM is fully capable of producing reports that provide the key metrics as to PM work orders completed as planned, not completed, staff labor hours required (including whether those staff are on the Area Pilot Team or Support Team staff), and various other performance evaluation metrics.

2.4 Asset Management Program

Following DWSD's submission of the Asset Management (AM) Program on January 1, 2014, DWSD provided MDEQ with a document depicting the Program directional focus and associated implementation schedule. DWSD has embarked upon a multi-year program for implementation of a robust asset management program which includes predictive maintenance, business risk exposure assessments, scheduled replacements and a focus on reliability centered maintenance. The AM Program recognizes and builds upon the many individual asset management components for which DWSD has already made

significant progress, including: the Preventive Maintenance Plan (PMP); annual Scheduled Replacement Plan (SRP); Computerized Maintenance Management System (CMMS) including asset inventory, hierarchy and criticality; Capital Planning Process; triennial Needs Assessment; and Operational Performance Plan (OPP) including performance metrics. The AM Program will pull together and integrate these individual components and provide an over-arching comprehensive plan for managing and implementing asset management at DWSD. Further, through the PMP, DWSD has initiated a comprehensive multi-year program for implementation of Reliability Centered Maintenance (RCM) on all critical assets of the WWTP, Sewage Pump Stations, and CSO Retention Treatment Basins, and Screening Disinfection Facilities.

The RCM Program has completed the comprehensive process of evaluating the Intermediate Lift Pump assemblies (5 pump systems) and the Complex I Belt Filter Press assemblies (10 BFPs). Selection of the next equipment to receive the RCM analysis will be determined based on the results of the BRE assessments. A more comprehensive presentation of Asset Management Program Implementation will be provided in the annual report prepared by DWSD to be delivered on or before October 1, 2014.

Recognizing the significance of asset management to long-term, sustainable compliance with the NPDES permit and the Clean Water Act, the organization optimization of the WWOG incorporates a new Section-level group – the Asset Management Work Group. Working with process area teams, Engineering and other support groups, the AM Work Group has responsibility for maintaining, managing and implementing asset and reliability practices to maximize equipment life cycles and performance. The Maintenance Planner function, currently assigned to each of the Area Pilot Teams, will coordinate with the AM Work Group to address revisions to the asset registry, implementation of standard operation procedures, completion of work order data entry, and WAM related services.

2.5 Interim Staffing Level

A Staffing Plan, as required by ACO-00131, shall provide an adequate staffing level to operate, maintain, repair, and test as required to ensure compliance with the terms and conditions of the NPDES permit. As noted in the implementation of the Optimization Project is a process, and that process will continue to evolve especially as the new structure is stood up over the course of five years. There is no firmly defined number of employees for the Wastewater Treatment plant as we transition to a more optimized organization with an empowered workforce properly supported. We continue to adjust the number of employees in the process area teams based on workload, adjustments in business practice and the incorporation of technology. The additional employees on the support crews provide additional assurance for flexibility to ensure that we are able to maintain compliance as we complete our workforce optimization.

After the preliminary 90-day assessment by EMA, a staffing recommendation by EMA was issued based on a pilot review of workload and a preliminary assessment with EMA as to the number of full-time equivalents (FTE) required to efficiently complete that workload. The recommendation was also based on technology implementations identified or proposed that were not in place during the pilot implementation of the job designs and are based on a workforce sufficiently trained to the recommended level needed. DWSD has committed to proceed largely through attrition as we evolve to the appropriate staffing level that would ensure regulatory compliance with no compromise on water quality and worker safety through the process. The ultimate goal is the creation of a team-based environment, reorganized for efficiency, clear accountability, and responsibility with opportunities for highly valued career paths.

We have a current staffing level at the WWTP, including CSO, at 410 FTE. The contractually supported staff for operations is 52, plus or minus ten people, based on need fluctuations. With the current staffing level, we have maintained substantial compliance. The issue of solids inventory are addressed in a separate communication and we are currently, as of September 18, 2014, below 1,500 dry tons (see Attachment 5). During this time of transition, the organizational structure, job descriptions, work practices, adequacy of automation, training and certifications, and staffing levels will continually be challenged. As those challenges are addressed and resolved, the organization will become more efficient and cost effective, service delivery will continue to improve, and DWSD will reinforce its ability to sustain compliance with the NPDES Permit and the ACO.

In the actual experience of the optimization process, adjustments are expected. In our current experience, those adjustments have resulted in additions to the teams, and ultimately, increases in the staffing level. For example, through this journey we have discovered the need for another team which is Process Control. This team is calling for another 7 FTEs in the final design. This process inherently calls for staffing level adjustments as we consider technology, automation, and streamlined work practices.

The organizational structure represents the team based approach to work which emphasizes the interconnectivity, areas of common ground and overwhelming need for effective communication, cross-functional cooperation and support.

The job descriptions are written with the appropriate opportunities for review. The piloting within the operational areas was the testing ground for flexibility and current staffing level requirements considering the implementation of key projects that will serve to reduce labor intensive operations that currently exist because of outdated and/or chronically malfunctioning equipment and processes.

The process of documenting work practices has begun through the Asset Management project through the writing of standard operating procedures (SOP). As the routine business practices are appropriately documented the technological support for the effective way of working will be implemented.

We are determined in our insistence that the old way of working is no longer acceptable. We will insist that our employees come to work prepared to work a full shift. As we reset the expectation of our employees, and equip the employees with the proper training, we will begin to see improvements in productivity. Improved productivity is equivalent to adding staff.

One of the challenges that we faced in moving to a team-based environment was that leadership was needed to assist employees in embracing the new work practices which rely on the concepts of responsibility and accountability. In our efforts to address this need, we have incorporated former supervisory titles on the off-shift and supplied additional leadership resources for the Support and Plant-wide Teams. In attachment 6, we have provided a copy of the organization chart provided in the August 29, 2014 Interim Staffing Plan submission, as well as an organization chart on the Interim Operations Leadership.

In in order to ensure that we have sufficient staff to handle peak workload and unanticipated occurrences we have the following support crew personnel:

Solids 29
Liquids 30

These 59 employees are not assigned to any specific process area team and do not have normal recurring work assignments. They are available to assist wherever and whenever needed. There is a support crew for the solids areas (Residuals & Dewatering) and a crew for the liquids areas (Primary & Secondary). We may occasionally rebalance the support crews based on the assistance needed by the process areas. These additional employees provide us the flexibility to deploy resources when there are challenges in a specific work area. In addition to these employees, we also have contractual arrangements to provide staffing support as needed. The combination of these two provides an additional level of support to ensure that we have staffing available when needed.

In addition to the support teams we have established a plant-wide team of 45 employees. Their primary areas of responsibility are buildings and grounds. They also have responsibility for certain facilities that are not specific to any process area. This team has not been piloted because we are currently identifying which functions performed by this group will be outsourced. In addition to the support crews, these employees are available to assist operations should the need arise.

The WWOG has an array of contractors that perform work at the WWTP. The contractors fall in the following basic categories:

- Skilled Trades Contract, PC-790:

  PC-790 is a skilled trades contract which was design to handle specialty services and peak labor demands at the WWTP. This contract provides specific trades such as painters, millwrights, etc., skilled trades for complex equipment repair (such as machine shops), and occasionally small construction projects. This contract also provides access to specialized trades such as experienced operators to conduct training and review procedures, HVAC service and vactor cleaning when

WWTP equipment is in use. This contract is never used to supplement labor in the pilot plant processing teams; however, it is used for specific technical support and non-core labor such as grounds and janitorial services. DWSD is evaluating the cost effectiveness of outsourcing non-core work. The use of PC-790 for the aforementioned needs is on average equivalent to 25-35 FTEs per month.

- Contract subject matter experts:

  Operations and engineering at the DWSD WWTP have a number of contracts in place to support the need for subject matter experts and as needed engineering.

  Personal contract:

  Tony Wachocki has a personal services contract, PS-1533, for specific items required for compliance under the ACO and NPDES permit. This individual has responsibility for maintaining current O&M manuals and SOPs, coordination of predictive maintenance, dashboards, training and training development to support wastewater operator state licensing and ancillary training needs.

  Butler Benton has been engaged under CS-1670 as Interim Wastewater Director for management services.

  Compliance support:

  Regulatory Assistance and Strategic Planning contract (CS-1525) provides one compliance subject matter expert, Ed Hogan. This contract can also be used for document development such as MDEQ required documentation for State Revolving Fund applications.

  As-Needed Engineering Contracts:

  WWOG has as-needed engineering contracts with 3 engineering firms which also have listed subcontractors. These contracts are used to support engineering through the use of specific task orders; which include for example, odor studies, hydraulic studies, specialized training, and design support. Usage through these contracts does not supplement labor for the process area teams. These contracts average 2-3 FTEs per month.

- Detroit Fire Department HazMat Response:

  Wastewater Operations Group (WWOG) has a contract for emergency response for chemical addition (primarily chlorine and sulfur dioxide) plant wide. There are four fire department employees stationed at the facility 24/7.

  As DWSD progresses through our optimization, we will perform cost benefit analysis to re-evaluate this contracted service, as well as to determine what additional functions should be outsourced and formalized into contracts for HVAC, janitorial, grounds maintenance, etc.

- EMA Asset Management, 3 FTEs
- Vactor Equipment and Operator Crew, 3 FTEs

3.0 Summary – Organization Optimization Initiative and the Interim Staffing Plan

DWSD is continuing to implement the Organizational Optimization initiative to ensure long-term regulatory compliance, affordability and sustainability for the system and its customers. The Optimization initiative responds to the Orders issued by the Federal Court to remedy underlying root causes for recurring cycles of noncompliance with the NPDES permit and the Clean Water Act. The Optimization Project is scheduled to be implemented over the course of five years.

At the outset, the Organizational Optimization initiative was envisioned as a **continuous improvement process** that was expected to evolve; reacting and adapting to the environment and circumstances surrounding DWSD and the WWOG. Throughout the Optimization implementation, the Director has advised focusing on the direction rather than the specific numbers, and allowing the process to determine the right combination of skill sets and the appropriate number of staff to maximize efficiency while complying with the NPDES Permit, ACO, and other regulatory requirements.

The organizational optimization initiative is approaching the end of the second year of its 5-year implementation. There have been many modifications and adjustments to address issues associated with the operations and maintenance of the WWTP, and we fully anticipate there will be additional issues and services that will continue to require additional evaluation and adjustments as the project evolves.

The DWSD document "Organizational Optimization Project and the WWOG Staffing Plan" dated January 20, 2014 characterized the optimization process as a continuous improvement process, and demonstrated how the initial staffing projection has evolved into an adjusted staffing level based on the first year of implementation. Since that report was prepared, additional teams including Process Control and Asset Management have been identified, and a Plant-Wide services Team is under evaluation. Further, the role and extent of contractual services continues to be evaluated and will directly affect the DWSD staffing.

DWSD is proposing an interim staffing level of 452 (410 staff and 42 contractors, which is the lower level of contractual support), on an annual average basis not less than the 90% of 452. Our alternate proposal is an interim staffing level of 428 (386 staff and 42 contractors) on an annual average basis not less than the 95% of 428. We feel that either of these proposals will allow us to stay on the path of continuous improvement through adequate evaluation of outsourcing non-core functions, and refinement on projects like Asset Management, while trying to determine what the staffing level is for substantial compliance.

DWSD proposes to continue to provide status updates during our regularly scheduled monthly meetings. Further, the WWOG will continue to implement the Wastewater Operator Certification Training Program, Cross Training and Employee Rotation, and Manager/Supervisor Mentoring Training Program as previously approved under the Succession Planning and Training Program.

Attachment 1

Framework for Addressing Staffing Levels at the Detroit WWTP

Framework for Addressing Staffing Levels at the Detroit WWTP
DEQ-WRD, August 1, 2014

1. Current Requirements

NPDES Permit (MI0022802):

A Staffing Plan, as required by ACO-00131, has been approved by the Department. The permittee shall provide an adequate staffing level, in accordance with the approved Staffing Plan, to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit. *During the term of ACO-00131, a change in the minimum staffing level may be requested by the Permittee by submittal of a revised Staffing Plan, including training requirements, and may be revised only by mutual agreement in writing between the permittee and the Department.*

ACO (ACO-00131, as amended):

Paragraph 3.6 – "The DWSD shall ensure that the WWOG is adequately staffed to properly operate and maintain the Detroit WWTP and CSO facilities in accordance with the NPDES permit." The paragraph further requires a staffing plan to establish a minimum staffing level of maintenance and operations staff (DWSD and contractual) necessary to properly operate and maintain the WWTP and CSO facilities along with successful succession planning and training to ensure competent staff. The staffing plan was submitted and approved with the minimum staffing level of 645. 3.6d requires that beginning 10/1/13 DWSD maintain not less than 95% of the minimum staffing level on an annual average basis. *3.6e allows this minimum staffing level to be revised by mutual agreement in writing.* The latest approved number is 628. Based on ACO reporting requirement, compliance with this annual average for the October 1, 2013 through September 30, 2014 period needs to be reported by October 30, 2014.

2. Optimization Process at the WWTP

The DWSD is undergoing a staffing optimization process that was not envisioned during ACO development. This process includes establishing pilot teams (i.e. Primary, Secondary, Dewatering, Residuals, Plant-wide Facilities, CSO Basins, and during the optimization process support teams). The DEQ supports the team concept, as positive results have been shown over the years with the existing CSO Basin group. This process also includes the roll-out of new, more flexible job classifications to improve operational efficiency.

Because of this on-going optimization process, the DEQ-WRD laid out the following 4 guiding principles for ensuring adequate staffing levels during 2014:

- Comply with all effluent limits, and permit conditions,
- Operate the treatment facilities with an adequate margin of safety below permit limits,
- Reduce raw sewage discharges from remaining CSOs, considering actual precipitation,
- Maintain the treatment facilities adequately (including implementation of asset management, in accordance with the approved plan)

3. How compliance with the ACO and NPDES Permit will be Evaluated as of October 1, 2014

The DEQ recognizes that as DWSD works through the optimization process pilot team staffing levels are building up to appropriate and adequate staffing level from the unrealistic EMA baseline level. The DEQ further understands that as the pilot teams are being formed, evaluated, and reviewed by DEQ District staff, team staffing levels will be adjusted. Further, the DEQ understands that the optimization process will extend past the September 30, 2014 reporting period in the ACO. Therefore, the DWSD must satisfy all the requirements below as of September 30, 2014 (reported by October 30, 2014) to be in compliance with the ACO and the NPDES Permit:

- The 4 guiding principles for ensuring proper staffing levels must be achieved,
- All use of support team hours to each pilot team must be clearly and accurately reported to the DEQ District staff on an ongoing basis, and these hours need to be factored into team staffing levels,
- The shift to Preventive Maintenance (PM) from reactive maintenance must be factored into the team staffing levels, and adequately reported to District staff on an ongoing basis,
- The implementation of the Asset Management Program in accordance with the approved plan, must be factored into the team staffing levels. That is, time for adequate reporting from team staff to the asset management database(s) must be accounted for in needed staffing levels. This should be adequately reported to District staff, and
- An interim staffing level shall be proposed along with adequate justification on August 29, 2014.

The DEQ reserves the right to enforce the current ACO and NPDES permit staffing levels should the 4 guiding principles not be met. The final staffing level (with adequate documentation) that results from the optimization process, shall be submitted to the DEQ for review and approval.